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The late Professor Henri Poincaré, of Paris, France; Member of the French Academy; Commander of the Legion of Honor; Professor of Mathematics and Astronomy at the University of Paris.

* Professor Sir William Ramsay, K.C.B., of London, England; late Professor of Chemistry at University College, London; Nobel Laureate in Chemistry, 1904; President of the Seventh International Congress of Applied Chemistry.

Professor Carl Störmer, of Christiania, Norway; Member of the Norwegian Academy of Sciences; Associate Editor of the *Acta Mathematica*; Professor of Pure Mathematics in the University of Christiania.

* Professor Senator Vito Volterra, of Rome, Italy; Life Senator of the Italian Kingdom; Dean of the Faculty of Science and Professor of Mathematical Physics and Celestial Mechanics in the University of Rome; recently Lecturer in the Universities of Paris and Stockholm.

Each of these gentlemen has consented to prepare three lectures for the proceedings of the opening festival and to permit the institute to publish his dissertations in a series of volumes which it is proposed to issue in commemoration of the occasion. Those lectures whose names are designated above by an asterisk will be present and read the introductory lectures of their respective courses: the lectures of those whose names are not so designated will be contributed in manuscript and placed upon the program by title.

SCIENTIFIC NOTES AND NEWS

THE eighty-second annual meeting of the British Association, which opened on September 4, had a preliminary registration of 2,379 members, which is considerably larger than the average. At the opening meeting, at which the address of Professor Schäfer, already published in *SCIENCE*, was delivered, it was announced that Mr. J. K. Caird, of Dundee, had given £10,000 to the funds of the association.

DR. SIMON FLEXNER, director of the laboratories of the Rockefeller Institute, has been appointed Huxley lecturer for the current year. This lecture will be given before the

Charing Cross Hospital Medical School, London, on October 31, 1912.

PROFESSOR HUGO DE VRIES lectured at the New York Botanical Garden on September 14.

PROFESSOR WILHELM OSTWALD, who had intended to be present at the opening of the Rice Institute and to lecture at several universities, has been obliged to cancel his American trip, owing to ill-health.

SIR WILLIAM TURNER, professor of anatomy at Edinburgh, and Dr. Julius von Hann, professor of meteorology at the University of Vienna, have been appointed foreign knights of the Prussian order "Pour le mérite."

ALFRED H. BROOKS, geologist in charge of the Alaskan division of the U. S. Geological Survey, has been appointed a member of the Alaskan Railroad Commission, and is now en route to Alaska.

MR. V. H. HUGHES, E.M., has been appointed assistant state geologist of Missouri.

DR. FREDERICK J. BIRCHARD, formerly assistant in chemistry at the Rockefeller Institute, has been appointed a research chemist in the Dairy Division of the Bureau of Animal Industry, Washington, D. C.

THE Board of Scientific Directors of the Rockefeller Institute for Medical Research announce the following appointments: Michael Heidelberger, fellow in chemistry; Linda Bartels Lange, fellow in pathology; Florentin Medigreceanu, assistant resident physician.

A COURSE of two weeks devoted to an extension course in nervous and mental diseases has been given at Fordham University School of Medicine. Among those taking part were Drs. Henry Head and Gordon Holmes, of London; Dr. Carl Jung, of Zurich; Dr. Alwyn Knauer, of Munich; Dr. N. Achucarro, of Madrid, and Dr. Colon K. Russel, of Montreal.

PROFESSOR H. STRAUS, Berlin, will deliver a course of lectures, October 12, 14, 15, on diseases of the stomach and kidneys, at the New York Post-Graduate Medical School, and Professor Dr. Carl von Noorden, physician in

chief of the City Hospital, Frankfort, Germany, a course on pathology and treatment of diabetes, radium therapy and arteriosclerosis, October 28-31 inclusive..

THE REV. ROBERT ASHINGTON BULLEN, the well-known English naturalist, died on August 15, aged sixty-two years.

MR. CLINTON THOMAS BENT, a distinguished British surgeon, known also for explorations in the Caucasus and elsewhere, died on August 26, aged sixty-one years.

DR. FRITZ KÖTTER, professor of applied mathematics at the Berlin Technological Institute, died on August 17, aged sixty-one years.

DR. RUDOLF HÖRNES, professor of geology at Gratz, died on August 20, aged sixty-two years.

THE fourth National Conservation Congress will be held at Indianapolis on October 1, 2, 3 and 4, under the presidency of Mr. J. B. White, of Kansas City, Mo.

THE late Mr. Allan Octavian Hume, known as an ornithologist and botanist, bequeathed about £14,000 to the South London Botanical Institute, to which in 1907 he gave £10,000.

THE late Professor Lombroso offered every second year in connection with the *Archiv d'Anthropologia Criminale* a prize of Fr. 500 for the best work in connection with criminal anthropology. His family have now offered to the organization committee of the Eighth International Congress of Criminal Anthropology a prize of Fr. 1,000 for the best work reported to the congress which is to be held in Budapest in the summer of 1914.

A DESPATCH received from the American ambassador to Brazil relative to the approaching eclipse of the sun (October 10 next), which will be visible in that country states that: "The Brazilian minister of agriculture, desirous of assisting the foreign astronomical expeditions which propose to observe the eclipse, has petitioned the federal congress to appropriate \$23,000 for their reception and entertainment. He has also requested that their professional instruments and private

effects may be granted the privilege of free customs entry, that repairs to their instruments may be made in government workshops and that railroad passes and telegraphic franks may be given them. It is probable that the federal congress will act favorably upon the minister's petition, which has already received the endorsement of the executive."

THE sundry civil bill, as passed by the last session of congress, contained an appropriation of \$1,440,520 for the U. S. Geological Survey. Most of the appropriations for the survey are included in this great government supply bill, but in addition to the above amount \$37,400 was appropriated in the "legislative bill," for rents, so that the total amount appropriated is \$1,477,920. The principal items in the appropriations for the Geological Survey for the fiscal year ending June 30, 1913, are as follows:

Topographic surveys	\$350,000
Geologic surveys	300,000
Mineral resources of Alaska	90,000
Mineral resources of the United States	75,000
Chemical and physical researches	40,000
Geological maps of the United States ..	110,000
Gauging streams, etc.	150,000
Surveying national forests	75,000

The bill also appropriates \$145,000 for printing and binding survey reports, to be expended by the public printer.

A REMARKABLE deposit of remains of extinct animals is now to be explored by the University of California. This is the fossil beds in the Rancho La Brea, in the outskirts of Los Angeles. There oil has oozed to the surface, and in the tar pools so formed animals have become mired and have lost their lives, and their skeletons, even to the most fragile portions, have been preserved. Madam Ida Hancock Ross, the owner of the Rancho La Brea, has given to the university the privilege of excavating these fossil beds, and work has just begun, under the direction of Dr. John Campbell Merriam, professor of paleontology and historical geology.

THE American Fisheries Society at its recent annual meeting passed the following resolutions:

WHEREAS, the Congress of the United States has passed an act to give effect to the convention between the United States, Great Britain, Russia and Japan, having for its primary object the suppression of pelagic sealing, and

WHEREAS, this measure was amended so as to establish a five-year closed season on male seals on the Pribilof Islands, contrary to the advice of the United States Bureau of Fisheries and its Advisory Board, including the best informed scientists of the country, all personally familiar with the islands and the fur seal problem, and contrary to the expressed opinion of others personally familiar with the conditions of seal life on the islands.

Therefore, be it *Resolved*, that the American Fisheries Society places on record its deep regret that congress should have acted contrary to the advice of the recognized authority in this country on such matters, and further,

Resolved, that this society recommend the early repeal of this provision which is contrary to all biological experiences and which can lead only to dissatisfaction and to the ultimate exploiting of seal fisheries by private interests and with detriment to the herd, consequent financial loss to the government, and loss of prestige to the nation.

THE following is the text of the act of congress concerning the Public Health Service:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Public Health and Marine-Hospital Service of the United States shall hereafter be known and designated as the Public Health Service, and all laws pertaining to the Public Health and Marine-Hospital Service of the United States shall hereafter apply to the Public Health Service, and all regulations now in force, made in accordance with law for the Public Health and Marine-Hospital Service of the United States shall apply to and remain in force as regulations of and for the Public Health Service until changed or rescinded. The Public Health Service may study and investigate the diseases of men and conditions influencing the propagation and spread thereof, including sanitation and sewage and the pollution either directly or indirectly of the navigable streams and lakes of the United States, and it may from time to time issue information in the form of publications for the use of the public.

Sec. 2. That beginning with the first day of October next after the passage of this act the salaries of the commissioned medical officers of the Public Health Service shall be at the following rates per annum: surgeon general, six thousand dollars; assistant surgeon general, four thousand dollars; senior surgeon, of which there shall be ten in number, on active duty, three thousand five hundred dollars; surgeon, three thousand dollars; passed assistant surgeon, two thousand four hundred dollars; assistant surgeon, two thousand dollars; and the said officers, excepting the surgeon general, shall receive an additional compensation of ten per centum of the annual salary as above set forth for each five years' service, but not to exceed in all forty per centum: *Provided*, That the total salary, including the longevity increase, shall not exceed the following rates: assistant surgeon general, five thousand dollars; senior surgeon, four thousand five hundred dollars; surgeon, four thousand dollars: *Provided further*, That there may be employed in the Public Health Service such help as may be provided for from time to time by congress.

DR. ROLLIN T. CHAMBERLIN, of the department of geology in the University of Chicago, recently returned from a year of special investigations in South America, where he went as a geologist of the Brazilian Iron and Steel Company to examine the recently recognized iron ore deposits in the state of Minas Geraes, famous in the past for its output of gold and diamonds but likely in the future to be best known for its unrivaled mountains of iron ore. Dr. Chamberlin's special work was to locate the most promising ore masses in the district, make geologic and topographic surveys, and estimate the quantity and value of the ore. The surveys were much hindered by the necessity of cutting trails through the tropical jungle, natives armed with the Brazilian foica or wood hook being employed for the purpose. Travel was largely by mule-back. In order to get a general view of the geology of the South American continent Mr. Chamberlin, after finishing his work in Minas Geraes, traveled southward through Brazil and Uruguay to Buenos Aires and returned to the United States by way of the Straits of Magellan, Chile, Bolivia, Peru and Panama.

PROFESSOR WARREN K. MOOREHEAD, curator of the department of archeology, Phillips Academy, Andover, Mass., reports that the survey of which he had charge finished its first year in Maine September 8. There were on the expedition at various times from eight to twelve men and nearly all of the Penobscot valley was examined and mapped. A great deal of work was carried on at Passadumkeag, 40 miles above Bangor, and at Lake Alamoosook, 5 miles south of Bucksport. At Passadumkeag one undisturbed cemetery was entirely dug out and at Alamoosook two cemeteries, and at Orland a fourth was found. In these four cemeteries were 170 graves and from these about 800 stone objects were recovered. These graves contained large quantities of red ochre—not the small particles often encountered in exploration in the west and south—but quarts, or in several instances more than a peck of bright pigment. The objects found in the graves vary from one or two to nineteen in number, and comprise the true gouge, various modified forms of gouges, stone celts and hatchets (usually squared) and long tapering and fluted gouges. There were also some unknown forms, particularly at Passadumkeag, where long oval stones were found. These are perforated, and several exceed a foot in length. The absence of grooved axes, of pottery and bone and shell objects, of pipes, etc., indicates the presence of a culture different from that of the Algonkin. Save in one instance, there were no human bones discovered, and the graves are so old that the stone objects themselves have frequently begun to disintegrate. Mr. Charles C. Willoughby, twenty years ago, opened three burial places in southern Maine and met with similar conditions. Professor Putnam and Mr. Willoughby considered the graves extremely old. The name “the red paint people” has been applied to this culture, temporarily.

THE National Bureau of Standards in its general investigation of structural materials is engaged, among other things, in the determination of the physical properties of concrete. At the suggestion of engineers and

others, the Bureau of Standards is investigating the cause of cracking in concrete structures, where the necessity for expansion and contraction joints is questioned. For this purpose, reference marks were placed last week on some of the typical old and new concrete work in Wayne County, Michigan, also at Greenwich, Connecticut. Measurements will be taken from time to time during the summer and winter to determine the expansion or contraction in the concrete caused by temperature variations and the changes of volume which take place during the hardening of the concrete. Similar reference marks are being placed on the lock walls of the Panama Canal and various other structures.

THE United States has held first place among the coal-producing countries of the world since 1899, when this country supplanted Great Britain. In 1911 the total world's production of coal amounted to approximately 1,302,500,000 short tons, of which the United States contributed 496,221,168 tons, or 38.1 per cent. according to the United States Geological Survey. In the 12 years from 1899 to 1911 the production of the United States has increased over 250 per cent.; from 1899 to 1911 Great Britain has increased its output about 50 per cent., from 198,146,731 to 304,521,195 tons. The United States in 1911 produced almost 500,000,000 tons, or 63 per cent. more than Great Britain in 1911; Germany's production of coal and lignite in 1899 was 93,640,500 short tons; in 1911 it was 258,223,763 tons, an increase of over 175 per cent. The combined production of Great Britain and Germany in 1911 was 562,744,958 short tons, which exceeded the output of the United States by only 66,500,000 tons, or 13.2 per cent. These three countries, United States, Great Britain and Germany, produce more than 80 per cent. of the world's total supply of coal.

SECRETARY WILSON, of the U. S. Department of Agriculture, has decided to establish an experiment station on the Manti National Forest near Ephraim, Utah, for the study of grazing and water protection problems. In fact bids for the construction of the necessary

buildings have been received and it is expected to have the station in working order before winter. Already the gathering of observations on the relations of erosion and run-off to the forest cover have begun. The Manti National Forest was chosen as the site for this experiment station because it offers exceptionally good opportunities for investigating problems of practical value in connection with regulated grazing. Ephraim and other towns in its neighborhood have suffered severely from floods following violent rainstorms in the mountains, and it has already been proved conclusively that the overgrazed condition of areas on which the natural vegetative cover has been seriously altered is responsible for the formation of torrents and the rapid discharge of debris-laden floodwaters. In a recent destructive storm the water ran clear from a part of the watershed which was within the National Forest, and in good condition as a result of well-regulated grazing, while from other areas it swept down sand and boulders. One of the objects of the study will be to learn how the maximum of grazing use of natural forest land can be obtained without injury to forest reproduction and stream flow. The national forests provide range during a part or all of the year for a considerable part of the stock produced in the western states. Approximately one and one half million head of cattle and horses and seven and one half million head of sheep and goats occupy the forest lands each year. These figures do not include nearly three hundred thousand calves and over four million lambs and kids for which permits are not required. The experts of the department believe that when the ranges which were denuded by many years of improper use are restored to a normal condition of productivity it will be possible to provide feed for a much larger number of stock without injury to forest growths or watersheds, and both the stockgrower and the consumer of meat products will thus be benefited. Consequently every effort is being made to determine practicable means of regenerating depleted ranges. All of the studies which are about to be initiated have this point in view.

UNIVERSITY AND EDUCATIONAL NEWS

HARVARD UNIVERSITY and Middlebury College will each receive ultimately half of \$125,000, left by Daniel A. Kimball, of Stockbridge.

THE heirs of Michael Cudahy have given \$10,000 toward the endowment fund of Newman Hall, at the University of California, and \$1,000 each has been given by four other donors. The Newman Club is an organization of the Roman Catholic students of the university. Through the generosity of Archbishop Patrick W. Riordan, of San Francisco, who contributed \$40,000 (from his "jubilee fund"), and through the aid of other friends, the club occupies Newman Hall, an admirably appointed building, which contains meeting rooms, a chapel, a library, bowling alleys, social rooms, a kitchen, etc., and which serves as a center for the social and religious life of the Catholic students. Its privileges and hospitalities are open also to the other students of the university.

DR. DON R. JOSEPH, formerly associate in physiology and pharmacology at the Rockefeller Institute, has been appointed associate professor of physiology at Bryn Mawr College.

THE following new appointments have been made at Toledo University: Oscar William Irvin, B.S. (Kentucky), professor of mechanics and physics; Rudolf Pintner, M.A. (Edinburgh), Ph.D. (Leipzig), professor of psychology and education.

THE following appointments have been made to the staff of Macdonald College, Ste. Anne de Bellevue, Quebec: Wilfrid Sadler, M.D.D., of the Midland Institute, Kingston, Derbyshire, England, assistant in bacteriology; D. W. Hamilton, Ph.D., of the New Brunswick Normal School, assistant in physics; W. M. Aikenhead, B.S.A., assistant in horticulture; Alex. R. Ness, B.S.A., assistant in animal husbandry. Professor W. Saxby Blair has resigned the chair of horticulture and accepted the position of superintendent of the Kentville, Nova Scotia, Experimental Fruit Farm and dominion maritime horticulturist. The following graduates have been